

REMARKS

Reconsideration and further examination of this application is hereby requested. Claims 1-18, 20-28, and 33-42 are currently pending in the application. Claims 3, 16-18, and 22-27 have been withdrawn from consideration as being directed to non-elected species.

Claim 14 has been amended for the purpose of maintaining consistent terminology.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached pages are captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

**A. The Indefiniteness Rejection**

Claims 14 and 15 have been rejected under 35 U.S.C. § 112, ¶ 2d as being indefinite for using an inconsistent term. The term "substrate" has been amended to recite instead "Faraday shield," consistent with prior clarifying amendments (see the Amendment filed November 14, 2002).

Accordingly, Applicant respectfully submits that the indefiniteness rejection has been overcome by amendment.

B. The Guo/Yoshida Combination

Claims 1, 2, 4, 5, 28, 33-40, and 42 have been rejected under 35 U.S.C. § 103(a) as being obvious over Guo (US 5944899) in view of Yoshida (US 5735993). This rejection is respectfully traversed based on the following arguments.

In order for a patent claim to be obvious, the prior art must teach or suggest each and every limitation of that claim. That is because the claim must be considered as a whole - it may not be distilled down to a "gist."

Independent claim 1 recites that

the Faraday shield is disposed between the heating element and the chamber wall.

See lines 9 and 10 of claim 1. Independent apparatus claim 28 recites a similar limitation at lines 10 and 11. The dispute now focuses on the meaning of the word "between."

The prior art teaching of Yoshida is of an element embedded inside the chamber wall that provides both a shielding functionality and a heating functionality. In other words, this shield/heater element is surrounded by the bulk of the chamber wall. Since there is no shield element that is separate from the heater element, there is no way for the shield to be *between* the heater and the chamber wall. Because the heater and shield are one in the same, there is no way for this element to be *between*

itself and the chamber wall. The Examiner states that the "term 'between' must be given its broadest interpretation." See Paper No. 10, at page 5.

The Examiner has misstated the law. MPEP § 2111 explains that the appropriate rule for claim construction is that claim terms are to be given the broadest reasonable interpretation consistent with the specification.

The Examiner's interpretation of "between" is not consistent with the specification, which illustrates and shows an overlayed sandwich of elements, not a combining of the shield and heater into a single element and then embedding them inside the chamber wall. The Examiner has attributed a meaning of this term that is not illustrated, described, or otherwise disclosed in the specification. That is to say, it is not consistent with the specification.

Nor is the Examiner's interpretation of "between" reasonable. It strays beyond the ordinary meaning of the term. In relevant part, Webster's defines "between" to mean:

1. in or through the space that separates (two things).  
\*\*\*
3. separating.

See Webster's New Twentieth Century Dictionary of the English Language Unabridged, page 177 (1980 William Collins Publishers, Inc.). A copy of this dictionary entry is submitted herewith for

the Examiner's convenience of review. There is no way that the Examiner's interpretation of the structure taught by Yoshida can fit this definition.

Furthermore, the American Heritage® dictionary defines "between" to mean

- 1.a. In or through the position or interval separating.

See The American Heritage® Dictionary of the English Language, pages 179-80 (3d ed., 1992 Houghton Mifflin Co.). A copy of this dictionary entry is submitted herewith for the Examiner's convenience of review. This is further evidence that the Examiner's interpretation of "between" goes beyond the ordinary meaning of the word.

Based on the above reasons, Applicant respectfully requests that the Examiner carefully reconsider and withdraw the obviousness rejection of claims 1, 2, 4, 5, 28, 33-40, and 42.

**C. The Guo/Yoshida/Yin/Rice Combination**

Claims 6-15, 20, 21, and 41 have been rejected under 35 U.S.C. § 103(a) as being obvious over Guo in view of Yoshida, and further in view of Yin (WO 00/52973) and Rice (US 6095083). This rejection is respectfully traversed based on the following arguments.

As mentioned above, in order for a patent claim to be obvious, the prior art must teach or suggest each and every

limitation of that claim.

Independent claim 6 recites the limitation that the Faraday shield "provides thermal communication from the resistive heating element to the chamber wall." The Yin reference does not suggest this thermal communication because it teaches the heater and Faraday shield as both being in side the chamber with neither one of them in contact with the chamber wall. Although Yoshida heats the chamber wall, since it teaches a unified heater/shield element there is no suggestion that a Faraday shield communicate heat from a separate heating element structure into the chamber wall.

The Guo and Rice references provide no teachings relevant to this issue; they have been cited for other teachings. Accordingly, when Guo, Yoshida, Yin, and Rice are considered together, they fail to establish a prima facie case of obviousness with respect to claims 6-15, 20, 21, and 41.

For the above reasons, Applicant respectfully requests that the Examiner carefully reconsider and withdraw the obviousness rejection of claims 6-15, 20, 21, and 41.

**D. Closing**

In view of the above, Applicant respectfully submits that independent claims 1, 6, and 28 are patentable over the prior art. Applicant further submits that dependent claims 2-5, 7-18,

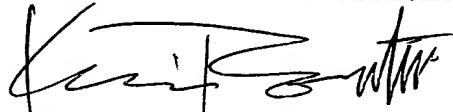
20-27, and 33-42 are patentable, at least as being dependent from patentable independent claims, and are further patentable due to the additional limitations recited therein.

For the above reasons, Applicant respectfully submits that the application is in condition for allowance with claims 1-18, 20-28, and 33-42. If there remain any issues that may be disposed of via a telephonic interview, the Examiner is kindly invited to contact the undersigned at the local exchange given below.

The Director of the U.S. Patent and Trademark Office is authorized to charge any necessary fees, and conversely, deposit any credit balance, to Deposit Account No. 18-1579.

Respectfully submitted,

ROBERTS ABOKHAIR & MARDULA, LLC



Kevin L. Pontius  
Reg. No. 37,512

Please direct phone calls to:  
Kevin Pontius at (703) 391-2900

Please continue to direct correspondence to:  
PATENT COUNSEL  
APPLIED MATERIALS, INC.  
Legal Affairs Department  
P.O. Box 450A  
Santa Clara, CA 95052



AMENDMENT UNDER 37 C.F.R. § 1.116  
Appln. No. 09/774,192

PATENT APPLICATION

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Amend claim 14 as follows:

14. (Two Times Amended) The temperature management apparatus of claim 13, wherein the predetermined shape comprises plural radial elements and a circular element, disposed at the outer edge of the substrate-Faraday Shield, joining the plural radial elements together.

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*Library of Congress Cataloging-in-Publication Data*  
The American heritage dictionary of the English language.  
—3rd ed.  
p. cm.  
ISBN 0-395-44895-6  
1. English language—Dictionaries.  
PE1628.A623 1992 92-851  
423—dc20 CIP

Manufactured in the United States of America

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**beta particle**

which two-carbon units are sequentially removed from the molecule with each turn of the cycle.

**beta particle** *n.* A high-speed electron or positron, especially one emitted in radioactive decay.

**beta ray** *n.* A stream of beta particles, especially of electrons. **beta-re·cep·tor** (*bē-tə-rē-sēp-tōr*, *bē-tē-*) *n.* A site in the autonomic nervous system in which inhibitor responses occur when cholinergic agents, such as norepinephrine and epinephrine, are released. Activation of beta-receptors causes various physiological reactions, such as relaxation of the bronchial muscles and an increase in the rate and force of cardiac contraction. Also called *post-cholinergic receptor*.

**beta rhythm** *n.* See **beta wave**.

**beta-tron** (*bē-tə-trōn*, *bē-tē-*) *n.* A magnetic induction electron accelerator capable of accelerating electrons to energies of several hundred million electron volts.

**beta wave** *n.* The second most common waveform occurring in electroencephalograms of the adult brain, characteristically having a frequency from 13 to 30 cycles per second. It is associated with an alert waking state but can also occur as a sign of anxiety or apprehension. Also called *beta rhythm*.

**be·tel** (*bē-tēl*) *n.* An evergreen Indo-Malayan climbing or trailing shrub (*Piper betel*), having usually ovate leaves used to wrap betel nuts. [Portuguese, from Malayalam *verili*, *verila*, from Tamil *verpiāl*.]

**Be·tel·geuse** (*bē-tēl-jūz'*, *bē-tēl-jooz'*) *n.* A bright-red intrinsically variable star, 527 light-years from Earth, in the constellation Orion. [French *Betelgeuse*, probably from Arabic *bayt al-jauz'*.]

**betel nut** also **be·tel·nut** (*bē-tēl-nūt'*) *n.* The seed of the betel palm, chewed with betel leaves, lime, and flavorings as a mild stimulant. Also called *areca nut*.

**betel palm** *n.* A tropical Asian feather-leaved palm (*Areca catechu*) cultivated for its seeds. Also called *catechu*.

**bête noire** (*bēt nōr*) *n.* One that is particularly disliked or that is to be avoided: "Tax shelters had long been the *bête noire* of reformers" (Irwin Ross). [French : *bête*, beast + *noire*, black.]

**beth** (*bēt*) *n.* The second letter of the Hebrew alphabet. See table at **alphabet**. [Hebrew *bet*, from *bayit*, house.]

**be·than·e·chol** (*bē-thānē-kōl*) *n.* A cholinergic drug, C<sub>17</sub>H<sub>21</sub>CLN<sub>2</sub>O<sub>2</sub>, that acts principally by stimulating the parasympathetic nervous system and is used in the form of its chloride to treat abdominal distention and urinary retention. [Perhaps *beth* (blend of **BETA** and **METHYL**) + -ANE + CHOL(INE).]

**Beth·a·ny** (*bēth'ə-nē*). **1.** A village of ancient Palestine at the foot of the Mount of Olives near Jerusalem. According to the New Testament, it was the site of the resurrection of Lazarus. **2.** A city of central Oklahoma west of Oklahoma City. It was settled in 1906. Population, 22,130.

**Be·the** (*bē'thē*). **Hans Albrecht.** Born 1906. German-born American physicist. He won a 1967 Nobel Prize for research on the energy production of stars.

**beth·el** (*bēth'əl*) *n.* **1.** A hallowed or holy place. **2.a.** A chapel for seafarers. **b.** *Chiefly British.* A Nonconformist chapel, especially a Baptist or Methodist one. [Hebrew *bet'el*, house of God = *bēt*, house + *'el*, God.]

**Beth·el** (*bēth'əl*). **1.** (also *bēth'əl*) A town of ancient Palestine north of Jerusalem. It is now a major archaeological site. **2.** A town of southwest Connecticut southeast of Danbury. It has varied light industries. Population, 16,004.

**Bethel Park**. A borough of southwest Pennsylvania, an industrial suburb of Pittsburgh. Population, 34,753.

**Be·thes·da** (*bē-thēz'dā*). An unincorporated city of west-central Maryland, a residential suburb of Washington, D.C. The National Institutes of Health and Naval Medical Center are here. Population, 63,022.

**be·think** (*bē-thingk'*) *v.* **-thought** (*-thōt'*). **-think·ing**, **-thinks**, **-tr.** **1.** To cause (oneself) to reflect on or consider. **2.** To remind (oneself); remember. See Synonyms at **remember**. **—tr. Archaic.** To meditate; ponder. [Middle English *bethen*, from Old English *bethan*. See *tong* in Appendix.]

**Beth·le·hem** (*bēth'lē-hēm*, *-lē-am*) **1.** A town in the West Bank south of Jerusalem. It is the traditional birthplace of Jesus. Population, 25,000. **2.** A city of eastern Pennsylvania on the Lehigh River north-northwest of Philadelphia. It is an important steel-producing center. Population, 70,419.

**Beth·mann-Holl·weg** (*bēt'mān-hōl'vāg'*, *-mān-*) **Theobald von.** 1856–1921. German politician who as chancellor (1909–1917) was opposed to but unable to prevent unrestricted submarine warfare during World War I.

**be·thought** (*bē-thūt'*) *v.* Past tense and past participle of **be-think**.

**Be·thune** (*bē-thūn'*, *-thūn'*). **Mary McLeod.** 1875–1955. American educator who sought improved racial relations and educational opportunities for Black Americans. She was part of the U.S. delegation to the first United Nations meeting (1945).

**be·tide** (*bē-tid'*) *v.* **-tid·ed**, **-tid·ing**, **-tides**, **-tr.** To happen. **—tr.** To take place; befall. See Synonyms at **happen**. [Middle English *bitiden* : *bi-*, be- + *tiden*, to happen (from Old English *tidan*; see *TIME*].

**be·times** (*bē-timz'*) *adv.* **1.** In good time; early: "A beneficent microclimate brings out the camellias *betimes*" (John Russell). **2.** Once in a while; on occasion. **3.** *Archaic.* Quickly; soon. [Middle

English *bitimes* : *bi*, by; see BY<sup>1</sup> + time, time; see TIME + -es, adv. suff.; see –S<sup>1</sup>]

**bē·tise** (*bē-tēz'*) *n.*, *pl.* **-tises** (*-tēz'*) **1.** Stupidity; folly: "The *bētise* of our human community is everywhere" (Thornton Wilder). **2.** A stupid or foolish act or remark. [French, from *bête*, beast, fool, foolish, from Old French *beste*, beast. See BEAST.]

**Bet·je·man** (*bēch'a-mān*) **Sir John.** 1906–1984. British poet and poet laureate (1972–1984) whose often nostalgic works, in collections such as *A Few Late Chrysanthemums* (1955), praise the English countryside.

**be·to·ken** (*bē-tō'kōn*) *tr.v.* **-kened**, **-ken·ing**, **-kens**. To be or give a sign or portent of. See Synonyms at **indicate**. [Middle English *bitoken* : *bi-*, be- + *tokēn*, to signify (from Old English *teacnan*; see *deik-* in Appendix).]

**bet·o·ny** (*bēt'n-ē*) *n.*, *pl.* **-nies** **1.** Any of several plants of the widespread genus *Stachys* in the mint family, especially *S. officinalis*, native chiefly to Europe and having spikes of usually reddish-purple flowers. It was once popular in herbal medicine. Also called *woundwort*. **2.** The loosewort. [Middle English, from Old French *betome*, from Medieval Latin *betonia*, both from Latin *retticina*, probably from *Vettōnes*, an ancient Iberian tribe.]

**be·took** (*bē-tük'*) *v.* Past tense of **betake**.

**be·tray** (*bē-trāt'*) *tr.v.* **-trayed**, **-tray·ing**, **-trays** **1.a.** To give aid or information to an enemy of; commit treason against: *betray one's country*. **b.** To deliver into the hands of an enemy in violation of a trust or allegiance: *betrayed Christ to the Romans*.

**2.** To be false or disloyal to: *betrayed their cause*; *betray one's better nature*. **3.** To divulge in a breach of confidence: *betray a secret*. **4.** To make known unintentionally: *Her hollow laugh betrayed her contempt for the idea*. **5.** To reveal against one's desire or will. See Synonyms at **reveal**<sup>1</sup>. **6.** To lead astray; deceive. See Synonyms at **deceive**. [Middle English *bitrāyen* : *bi-*, be- + *trāyen*, to betray (from Old French *trāir*, from Latin *trādere*, to hand over; see TRADITION).] **—be·tray'al n.** **—be·tray'er n.**

**be·troth** (*bē-trāth'*, *-trōth'*) *tr.v.* **-trothed**, **-troth·ing**, **-troths** **1.** To promise to give in marriage: *was betrothed to a member of the royal family*. **2.** To promise to marry. [Middle English *bitrōthen* : *bi-*, be- + *trōth*, truth (from Old English *trōth*; see *deru-* in Appendix).]

**be·troth·al** (*bē-trōth'l*, *-trōth'l*) *n.* **1.** The act of betrothing or the fact of being betrothed. **2.** A mutual promise to marry; an engagement: *announced their betrothal the next day*.

**be·trothed** (*bē-trōthd'*, *-trōthd'*) *adj.* Engaged to be married. **—betrothed n.** A person to whom one is engaged to be married.

**be·tō·ta** (*bētō-tō*) *n.* Any of various species of small, brightly colored, long-finned freshwater fishes of the genus *Betta*, found in southeast Asia. [New Latin *Betta*, genus name.]

**Bet·ten·dorff** (*bētēn-dōrf'*) *n.* A city of eastern Iowa, an industrial suburb of Davenport on the Mississippi River. Population, 27,381.

**bet·ter<sup>1</sup>** (*bēt'ər*) *adj.* Comparative of **good**. **1.** Greater in excellence or higher in quality than another of the same class, set, or kind. **2.** More useful, suitable, or desirable than another or others: *found a better way to go*; *a suit with a better fit than that one*.

**3.** More highly skilled or adept than another or others: *I am better at math than English*. **4.** Greater or larger: *argued for the better part of an hour*. **5.** More advantageous or favorable than others: *improved; a better chance of success*. **6.** Healthier or more fit than before: *The patient is better today*. **—better** *adv.* Comparative of **well<sup>2</sup>**. **1.** In a more excellent way. **2.a.** To a greater extent or degree; *better suited to the job*; *likes it better without sauce*. **b.** To greater advantage; preferably; *a deed better left undone*. **3.** More: *It took me better than a year to recover*. **—better** *n.* **1.** One that is greater in excellence or higher in quality than another or others. **2.** A superior, as in standing, competence, or intelligence. **—better** *v.* **-tered**, **-ter·ing**, **-ters**. **-tr.** **1.** To make better; improve: *trying to better conditions in the prison; bettered myself by changing jobs*. See Synonyms at **improve**. **2.** To surpass or exceed. **—intr.** To become better. **—idioms for the better.** Resulting in or aiming at an improvement: *Her condition took a turn for the better*. **had better.** Usage Problem. Ought to; must: *We had better go before the storm becomes worse*. **think better of.** To change one's mind about (a course of action) after reconsideration. [Middle English, from Old English *betera*. See *bhad-* in Appendix.]

**USAGE NOTE:** The phrase *had better* is acceptable, as long as the *had* or its contraction is preserved: *You had better do it* or *You'd better do it*, but not *You better do it*. See Usage Notes at **best**, **rather**.

**bet·ter<sup>2</sup>** (*bēt'ər*) *n.* Variant of **better**.

**better half** *n.* Informal. One's spouse. [From my better half, the larger part of me, that is, a close friend.]

**bet·ter·ment** (*bēt'ər-mənt*) *n.* **1.** An improvement over what has been the case: *financial betterment*. **2.** *Laic.* An improvement beyond normal upkeep and repair that adds to the value of real property.

**bet·ter-off** (*bēt'ər-ōf'*, *-ōf*) *adj.* Being in a better or more prosperous condition.

**bet·tor** also **bet·ter** (*bēt'ər*) *n.* One that bets or places a bet.

**be·tween** (*bē-twēn'*) *prep.* **Abbr. bet.** **1.a.** In or through the position or interval separating: *between the trees; between 11 o'clock and 12 o'clock*. **b.** Intermediate to, as in quantity,



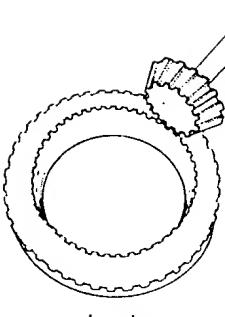
Mary McLeod Bethune



betony

amount, or degree: *It costs between 15 and 20 dollars.* 2. **Usage Problem** Connecting spatially a railroad between the two cities 3. **Usage Problem** Associating or uniting in a reciprocal action or relationship: *an agreement between workers and management, a certain resemblance between the two stories.* 4. a. By the combined effort or effect of. *Between them they succeeded.* b. In the combined ownership of. *They had only a few dollars between them.* 5. As measured against. Often used to express a reciprocal relationship: *choose between riding and walking —between* **adv** In an intermediate space, position, or time, in the interim —**idioms**. **between you and me**. In the strictest confidence in between. In an intermediate situation. *My roommates disagreed and I was caught in between, in between times.* During an intervening period: *has written several books and teaches in between times.* [Middle English *betwene*, from Old English *betweonum*. See **dwo-** in Appendix.] —**between'ness n.**

**USAGE NOTE:** According to a widely repeated but unjustified tradition, "between is used for two, and among for more than two." It is true that *between* is the only choice when exactly two entities are specified, *the choice between (not among) good and evil, the rivalry between (not among) Great Britain and France.* When more than two entities are involved, however, or when the number of entities is unspecified, the choice of one or the other word depends on the intended sense. *Between* is used when the entities are considered as distinct individuals; *among*, when they are considered as a mass or collectivity. Thus in the sentence *The bomb landed between the houses*, the houses are seen as points that define the boundaries of the area of impact (so that we presume that none of the individual houses was hit). In *The bomb landed among the houses*, the area of impact is considered to be the general location of the houses, taken together (in which case it is left open whether any houses were hit). By the same token, we may speak of *a series of wars between the Greek cities*, which suggests that each city was an independent belligerent, or of *a series of wars among the Greek cities*, which allows as well the possibility that the belligerents were shifting alliances of cities. For this reason, *among* is most appropriate to indicate inclusion in a group: *She is among the best of our young sculptors. There is a spy among you* (this last is arguably appropriate even when there are only two addressees; certainly *between* would be impossible). *Between* is the preferred choice when the entities are seen as determining the limits or endpoints of a range. *The plane went down somewhere between Quito, Lima, and La Paz. The truck driver had obviously been drinking between stops.*



### be·tween·brain (bē-twēn'bren') *n.* See **diencephalon**.

**be·tween·times (bē-twēn'timz') *adv.*** At or during pauses. "She took such tiny bites and set her fork down on her plate between times" (Anne Tyler).

**be·twixt (bē-twixt') *adv.* & *prep.* Between —**idiom**. **be-twixt and between**. In an intermediate position, neither wholly one thing nor another. [Middle English *bitwixt*, from Old English *bewixian*. See **dwo-** in Appendix.]**

**Beu·lah (bē'ü-lä) *n.*** 1. **Bible** The land of Israel in the Old Testament. 2. The land of peace described in John Bunyan's *Pilgrim's Progress*.

**beurre blanc (bür' blängk', boor bläsh') *n.*** A sauce made with butter, shallots, and vinegar or lemon juice, often served with seafood. [French, *beurre*, butter + *blanc*, white, not browned.]

**Beuys (boiz, boos), Joseph**, 1921–1986. German artist who attempted to convey his highly politicized views through sculpture, drawings, and performance art.

**BeV abbr** Billion electron volts

**Bev·an (bēv'ən)**, **Aneurin**, 1897–1960. Welsh-born British politician who as minister of health (1945–1951) was the chief architect of the National Health Service.

**bevel (bēv'l) *n.*** 1. The angle or inclination of a line or surface that meets another at any angle but 90°. 2. Two rules joined together as adjustable arms used to measure or draw angles of any size or to fix a surface at an angle. In this sense, also called *bevel square*. —**bevel v.** *-eled, -el·ing, -els or -elled, -ell·ing, -ells.* —*tr.* To cut at an inclination that forms an angle other than a right angle: *beveled the edges of the table.* —*intr.* To be inclined; slant. [Possibly from Old French *\*berel*, perhaps from *baie*, open-mouthed, from *baer*, to gape, from Vulgar Latin *\*badare*.]

**bevel gear** *n.* Either of a pair of gears with teeth surfaces cut so that they can connect unparallel gear shafts.

**bevel square** *n.* See **bevel** (sense 2).

**bever·age (bēv'rij, bēv'rij) *n.*** Any one of various liquids for drinking, usually excluding water. [Middle English, from Old French *berrage*, from *beurre*, to drink, from Latin *bebere*. See *pō(i)-* in Appendix.]

**Bever·idge (bēv'rij, bēv'rij) *n.*** **Albert Jeremiah**, 1862–1927. American politician and historian. A U.S. senator from Indiana (1899–1911), he is best known for his historical works, most notably *The Life of John Marshall* (1916–1919).

**Bever·ly (bēv'är-lë) *n.*** A city of northeast Massachusetts northeast of Boston. It was settled in 1626. The schooner *Hannah*, the first ship of the Continental Navy, was outfitted here (1775). Population, 37,655.

**Beverly Hills** *n.* A city of southern California surrounded by Los Angeles. It adjoins Hollywood and is famous as a fashionable residential area for show business personalities. Population, 32,367.

**Bev·in (bēv'in) *n.*** **Ernest**, 1884–1951. British labor leader and politician who served as minister of labor (1940–1945) and as foreign minister (1945–1951) and was instrumental in postwar diplomacy, notably the NATO treaty of 1949.

**bev·y (bē've) *n., pl. -ies.*** 1. A group of animals or birds especially larks or quail. 2. A group or an assemblage of beauties. See Synonyms at **flock**. [Middle English, from Anglo-Norman *berie*.]

**be·wail (bē-wäl') *tr.v.* *-wailed, -wail·ing, -wails.* 1. To cry over, lament: *bewail the dead.* 2. To express sorrow or unappiness over: "bewailing the possible effects of double-digit unemployment" (Washington Post). [Middle English *bewailen*, *bi-, be-* + *walen*, see *wail*.] —**be·wail'er n.** —**be·wail'ment n.****

**be·ware (bē-wär') *v.* *-wared, -war·ing, -wares.* —*tr.* To be on guard against, be cautious of. "Beware the tides of March" (Shakespeare). —*intr.* To be cautious, exert caution. *We had to beware of the icy patches on the road. Beware of the dog.* [Middle English *ben war*, *ben*, to be, see *BE*; *-war*, on one's guard, see *WARE*.]**

**be·whis·kered (bē-hwīs'kərd, -wīs'-) *adj.*** Having whiskers.

**be·wigged (bē-wig'd) *adj.*** Wearing a wig.

**be·wil·der (bē-wil'dər) *tr.v.* *-dered, -der·ing, -ders.* 1. To confuse or befuddle, especially with numerous conflicting situations, objects, or statements. See Synonyms at **puzzle**. 2. To cause to lose one's bearings, disorient. *The twists and turns in the care soon bewildered us.* —**be·wil·dered·ly adv.** —**be·wil·der·ness n.** —**be·wil·der·ing·ly adv.****

**WORD HISTORY:** The word *bewilder* is probably used much more commonly in its figurative sense "to confuse" than in its literal sense "to cause to lose one's bearings, disorient." Yet the latter sense is most likely the clue to the original source of this word. *Bewilder*, first recorded in 1684, is made up of the prefix *be-*, here meaning "completely," and the verb *wildér*, meaning "to cause to lose one's way," first found in 1613. *Wildér* may in turn be a back-formation from *wilderness*, a much older word than *wildér*. Users of English might have erroneously thought that *wilderness* was derived from an older verb *wildér*, which they then used with reference to the loss of one's way that can occur in a wilderness.

**be·wil·der·ment (bē-wil'dər-mənt) *n.*** 1. The condition of being confused or disoriented. 2. A situation of perplexity or confusion, a tangle: *a bewilderment of lies and half-truths.*

**be·witch (bē-wich') *tr.v.* *-witched, -witch·ing, -witch·es.* 1. To place under one's power by or as if by magic, cast a spell over. 2. To captivate completely, entrance. See Synonyms at **charm**. [Middle English *bewichen*, probably *bi-, be-* + *wicche*, witch, see *WITCH*.] —**be·witch'er n.** —**be·witch'er-y n.****

**be·witch·ing (bē-wich'ing) *adj.*** Enchanting as if with a magic spell, fascinating. —**be·witch·ing·ly adv.**

**be·witch·ment (bē-wich'mēnt) *n.*** 1. a. The act of bewitching. b. The power to bewitch. c. The state of being bewitched. 2. A bewitching spell.

**be·wray (bē-rā') *tr.v.* *-wrayed, -wray·ing, -wrays.* Archaic. To disclose or betray. [Middle English *bureuen*, *bi-, be-* + *wreuen*, to accuse (from Old English *wregan*).]**

**bey (bē) *n.*** 1. A provincial governor in the Ottoman Empire. 2. a. A ruler of the former kingdom of Tunis. b. Used as the title for such a ruler. 3. Used formerly as a title for various Turkish and Egyptian dignitaries. [Turkish, from Old Turkic *beg*, ruler, prince.]

**be·yond (bē-and', bi-yond') *prep.*** 1. On the far side of; past: *Just beyond the fence.* 2. Later than, after *beyond midnight*. 3. To a degree that is past the understanding, reach, or scope of: *an evil beyond remedy.* 4. To a degree or amount greater than: *rich beyond his wildest dreams.* 5. In addition to: *asked for nothing beyond peace and quiet.* —**beyond' adj.** 1. Farther along or away. 2. In addition, more: *wanted her share but nothing beyond.* —**beyond n.** 1. That which is past or to a degree greater than knowledge or experience, the unknown: "Sputnik, the first satellite to enter the great beyond of space" (Dale Russakoff). 2. The world beyond death; the hereafter. [Middle English *beyondc*, from Old English *begeondan*, *be*, by, see *BY* + *geondan*, on the far side of, see *i-* in Appendix.]

**bez·ant (bēz'ənt, bā-zānt') *n.*** 1. See **solidus** (sense 1). 2. Architecture. A flat disk used as an ornament. [Middle English *bēzant*, from Old French, from Medieval Latin *Bīcāntius*, from Latin, of Byzantium.]

**bez·el (bēz'əl) *n.*** 1. A slanting surface or bevel on the edge of a cutting tool, such as a chisel. 2. The upper, faceted part, i.e., of a cut gem, above the girdle and below the table. 3. A groove or flange designed to hold a beveled edge, as of a watch crystal or a gem. [Probably French dialectal, akin to French *biseau*, from *bis-* two times, from Latin. See **dwo-** in Appendix.]

**Bé·ziers (bēz'yā') *n.*** A city of southern France southwest of Montpellier. An ancient Gallic fortress, it is an industrial center with an important trade in wines. Population, 76,647.

**be·zique (bā-zék') *n.*** Games. A card game similar to pinochle that is played with a deck of 64 cards. [French *bésigue*, possibly from Italian *bazzica*, a kind of card game.]

**be·zoar (bēz'är', -zör') *n.*** A hard indigestible mass of material, such as hair, vegetable fibers, or fruits, found in the stomachs or intestines of animals, especially ruminants, and human beings.

WEBSTER'S  
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OF THE  
ENGLISH LANGUAGE  
UNABRIDGED

SECOND EDITION

BASED UPON THE BROAD FOUNDATIONS LAID DOWN BY

Noah Webster

EXTENSIVELY REVISED BY THE PUBLISHER'S EDITORIAL STAFF UNDER THE GENERAL SUPERVISION OF

JEAN L. McKECHNIE

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WILLIAM COLLINS  
PUBLISHERS, INC.

1980

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Second Edition

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ISBN 0-529-04852-3

PRINTED IN THE UNITED STATES OF AMERICA

# béton

*por.* [ME. *betokenen*, from AS. *be-*, and *tæcn.* *idæcn.*, a token.]

1. to foreshow by present signs; to be a sign or token of.

2. to indicate; denote.

**béton'**(bā-tōn'). *n.* [Fr., concrete; Pr., beton; Sp., bunt, from L. bitumen, bitumen.] concrete made of gravel, sand, and hydraulic cement.

**bé-tongue'** (-tung'). *v.t.* to attack with the tongue; to abuse; to scold.

**bé-tony', n.** [ME. betony; OFr. beteine; L. betonica, a corruption of *betonica*, called after the Vetttones, an ancient tribe in Gaul.] the *Sachys Betonica*, a plant which grows in woods. It was formerly much employed in medicine, and is sometimes used to dye wool a dark-yellow color.

**bé-took'**, past tense of *hetake*.

**bé-torn'**, *a.* torn. [Obs.]

**bé-toss'**, *v.t.* to toss; to agitate; to disturb; to put in violent motion.

**bé-trap'**, *v.t.* 1. to entrap; to ensnare.

2. to put trappings on; to clothe. [Obs.]

**bé-tray'**, *v.t.*; betrayed, *pt.*, *pp.*; betraying, *ppr.* [ME. *betrayen*, *betrain*; *be-* and *traien*, betray; OFr. *trair*, L. *tradere*, to hand over, deliver.]

1. (a) to deliver into the hands of an enemy by treachery or fraud, in violation of trust; as, an officer betrayed the city; (b) to help the enemy of (one's country, cause, etc.); to be a traitor to.

2. to violate by fraud or unfaithfulness; as, to betray a trust.

3. to break faith with by disclosing a secret or that which was entrusted; to expose; followed by the person or the thing; as, my friend betrayed me, or betrayed the secret.

4. to disclose, as something intended to be kept secret or that which prudence would conceal; to disclose unintentionally; as, to betray one's ignorance.

5. to mislead; to lead astray; to victimize; as, great confidence betrays a man into errors.

6. to show; to disclose; to indicate; used of that which is not obvious at first view, or would otherwise be concealed; as, all the names in the country betray great antiquity.

7. to fail, or deceive; as, my legs betray me.

8. to seduce and fail to marry.

*Syn.*—deceive, delude, dupe, ensnare, disconcert, reveal.

**bé-tray'al**, *n.* the act of betraying; a breach of trust; also, the fact or state of being betrayed.

**bé-tray'er**, *n.* one who betrays; a traitor.

**bé-tray'ment**, *n.* betrayal. [Rare.]

**bé-trim'**, *v.i.*; betrimmed, *pt.*, *pp.*; betrimming, *ppr.* to adorn; to embellish.

**bé-troth'** (or -trōth'), *v.t.*; betrothed, *pt.*, *pp.*; betrothing, *ppr.* [ME. *betrothen*, to betroth; *be-*, and *trethe*; AS. *treoth*, troth, truth.]

1. to promise or pledge in marriage; to affiance; as, the father betroths his daughter.

2. to plight one's troth to; to engage oneself to; as, a man betroths a lady. [Archaic.]

**bé-troth'al** (or -trōth'al), *n.* the act of betrothing, or the state of being betrothed; a promise or engagement between two persons for a future marriage; betrothment; engagement.

**bé-trothed'** (or -trōthd'), *a.* engaged to be married.

**bé-trothed'**, *n.* a person engaged to be married.

**bé-troth'ment** (or -trōth'), *n.* betrothal.

**bé-trust'**, *v.t.* to entrust; to commit to another in confidence or fidelity; to trust. [Obs.]

**bé-trust'ment**, *n.* the act of entrusting; also, the thing entrusted. [Obs.]

**bé-sō**, *n.* [It. *pizzo*, a piece; a piece of money.] a small Venetian coin. [Obs.]

**bé-tā**, *n.* [Mod.L.] any of a genus (*Betta*) of brightly colored, tropical, fresh-water fishes of southeastern Asia, especially an aquarium species (*Betta splendens*).

**bé-ted**, alternative past tense and past participle of *bet*.

**bé-tér**, *a.* comp. of good. [ME. *bettere*, *bete*; AS. *betera*, better, from a positive not in use, but which appears in the adv. *bet*; D. *beter*; M.H.G. *besser*; G. *besser*; Sw. *battre*; Sans. *bhāṣṭra*, excellent.]

1. having good qualities in a greater degree than another; surpassing another or others; as, better soil, a better man, a better house, better men, a better harvest.

2. more advantageous, acceptable, safe, useful, or to be preferred for any other reason.

*Better* is a dinner of herbs where love is, than a stalled ox and hatred therewith.

—Prov. xv. 17.

3. improved in health; less affected by disease; as, the patient is better.

*use*, bull, brûte, tûrn, up; cry, myth; cat, machine, ace, church, chord; gem, anger, (Fr.) boñ, as; this, thin; azure

4. larger in amount or size; as, he gave me the better part of the cake.

5. more nearly perfect or complete; as, better acquaintance; to have a better understanding; a better knowledge of a subject.

better half; a wife or, occasionally, a husband. [Colloq.]

*to be better off*; to be in better circumstances. **bé-tér**, *adv.* comp. of *well*. 1. in a more excellent manner; in a more suitable way; as, to perform work better; to plan a scheme better; land better cultivated.

2. more correctly or fully; as, to understand a subject better than another.

3. in a higher degree; to a greater extent; more.

*to think better of*; to reconsider and change, as an opinion or decision.

**bé-tér**, *v.t.* bettered, *pt.*, *pp.*; bettering, *ppr.*

1. to improve; to meliorate; to increase the good qualities of; as, manure bettered land; discipline may better the morals.

2. to surpass; to exceed.

The works of nature do always aim at that which cannot be bettered. —Hooker.

3. to advance; to support; to give advantage to; as, to better a cause. [Obs.]

4. to improve; to increase; to enhance in value; as, to better one's station in life.

*Syn.*—amend, improve, advance, meliorate.

**bé-tér**, *v.i.* to become better; to improve.

**bé-tér**, *n.* 1. one of superior rank or standing; one entitled to precedence; generally in the plural; as, he stood in the way of his *better*s.

2. a more excellent thing, condition, circumstance, action, etc.

3. advantage: used with *of*; as, he got the better of me.

*all the better*; wholly better; better by all the difference.

*for the better*; so as to improve; as, a change for the better.

*to get or gain the better of*; to obtain advantage, superiority, or victory over.

*to have the better of*; to have the advantage or superiority over.

**bé-tér**, **bé-tör**, *n.* a person who bets or lays a wager.

**bé-tér-ment**, *n.* 1. a making better; improvement.

2. in law, an improvement of an estate which makes it better than mere repairs would and increases its value.

**bé-tér-móst**, *a.* best; as, the *bettermost* classes. [Rare.]

**bé-tér-ness**, *n.* 1. superiority.

2. the excess of fineness of a precious metal above the standard.

**bé-tíng**, *n.* the act or practice of making bets; wagering.

**bé-tóng**, *n.* [native name.] the kangaroo rat, a marsupial of the genus *Bettongia*, about the size of a common hare. It is nocturnal in its habits and is found in Australia.

**bé-troth**, *n.* see *better*.

**bé-tý**, *n.* 1. a small instrument used by thieves in entering houses, etc.; a short bar or wrench; now called a *jimmy*. [Slang.]

2. a man who engages in woman's work: a contemptuous term.

3. a pear-shaped Italian flask or bottle for wine or olive oil; a Florence flask.

**Bé-tú-lá**, *n.* [L., the birch.] a genus of hardy trees or shrubs, natives of the north temperate and arctic regions, the birches.

**Bé-tú-lá-ce-ae**, *n. pl.* a natural order of apetalous dicotyledonous plants, of which *Betula* is the typical genus.

**bé-tú-lé-ceous**, *a.* relating to the *Betulaceæ*.

**bé-tú-lín**, **bé-tú-line**, *n.* a substance extracted from the bark of the common or white birch.

It is of a white color, crystallized in the form of long needles, volatile and inflammable.

**bé-tum'ble** (-bi), *v.t.* to tumble. [Rare.]

**bé-tween'**, *n.* an interval. [Rare.]

**bé-tween'**, *prep.* [ME. *betwene*, *bitwene*; AS. *betwenum*, *betwunum*; be, by, and *twenum*, from *twa*, two.]

1. in or through the space that separates (two things).

2. in or of the time, amount, or degree that separates (two things); intermediate to; as, between blue and green.

3. separating.

4. connecting; relating; as, a bond between friends.

5. by the action of both of; as, between them they landed the fish.

7. in the combined possession of; as, the men had fifty dollars between them.

8. to the exclusion of all but both of; as, they divided it between them.

# bevy

9. one or the other of; as, choose between love and duty.

10. as a consequence of the combined effect of; as, between her job and her studies she has little time for reading.

*between ourselves, between you and me*; in confidence.

**bé-tween'**, *adv.* 1. in an intermediate space, position, or function.

2. in an intermediate time; in the interval.

**bé-tween' decks**, in the space between the decks of a ship.

**bé-twixt'**, *prep.* [ME. *betwixt*, *bytwyxte*; AS. *betwixt*, *betwix*; from *be*, by, and *twa*, two.] between; now archaic except in the following phrase.

*betwixt and between*; in an intermediate position; not definitely one thing nor altogether another.

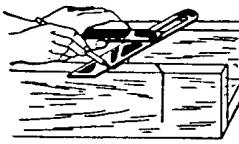
**bé-ré'** (bür-rā'), *n.* [Fr., from *beurre*, butter.] a pear, the succulent part of which is luscious and melting; used with a distinguishing word; as, *beurré d'Anjou*.

**bé-Bev**, *Bev*, *n.*; *pl.* **Bev**, *Bev*, [billion, and electron, and volts.] a unit of energy equal to one billion electron-volts.

**bé-á-tron**, *n.* [from *bev*, and -tron, as in cyclotron.] a synchrotron for accelerating protons and other atomic particles to an energy level of six or more billion electron-volts.

**bé-el**, *n.* [Fr. *biveau*.] a bevel.

1. an instrument used by mechanics for drawing angles and in fixing surfaces at an angle; it consists of two limbs joined together, the stock and the blade, movable at the joint, and adjustable so as to include any angle between it and the stock; a bevel square.



BEVEL

2. an angle other than a right angle.

3. a sloping part or surface, as the angled edge of plate glass.

**bé-el**, *a.* sloped; beveled.

**bé-el**, *v.t.*; beveled, bevelled. *pt.*, *pp.*; beveling, bevelled, *ppr.* to cut to an angle other than a right angle.

**bé-el**, *v.i.* to slant; to slope at an angle.

**bé-el-an'gle**, *n.* an angle not a right angle.

**bé-el-ed**, *bé-el'led*, *a.* 1. formed with a bevel-angle.

2. in mineralogy, replaced by two planes inclining equally upon the adjacent planes, as an edge; having its edges replaced by inclining planes, as a cube or other solid.

**bé-el gear**, a gear wheel meshed with another so that their shafts are at an angle of less than 180°. Such wheels are frequently called conical wheels, as they resemble the frustums of fluted cones.

**bé-el-ment**, *n.* in mineralogy, the replacement of an edge by two similar planes, equally inclined to the including faces or adjacent planes.

**bé-el square**, see *bé-el*.

**bé-el wheel**, same as *bé-el gear*.

**bé-vér**, *n.* [ME. *bever*; OFr. *bevre*, from L. *bevere*, to drink.] a collation or small repast between meals. [Obs.]

**bé-vér**, *v.i.* to take a small repast between meals. [Obs.]

**bé-vér-äge**, *n.* [ME. *beverage*; OFr. *beverage*, from *bevere*. L. *bebere*, to drink.]

1. any drink, as milk, coffee, lemonade, etc.

2. drink money; a treat. [Prov. Eng.]

**bé-vé'e**, *n.* [Fr. *béve*; OFr. *besue*; bes (L. *bis*), double, and *vue*, view.] an error; a slip.

**bé'y**, *n.* [ME. *bevy*, *bevey*; OFr. *beveye*, from *bevere*. L. *bebere*, to drink.]

1. a flock of birds; especially, a flock of quail.

2. a company of girls or women.

